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 Selected US specifications from IPC sub-class
 A01G

(54) Automatic watering apparatus

(57) Apparatus for automatically watering one or more plants growing in an container such as a growbag 1 comprises a water reservoir 3 formed from plastics film, support means 7 in the form of a lattice framework for supporting the growbag, and at least one spike 8 bearing a moisture absorbing wick 9. In use, the spike 8 pierces the growbag and introduces the wick into the soil, the ends of the wick being in water in the reservoir, so that water is gradually transferred to the soil from the reservoir.

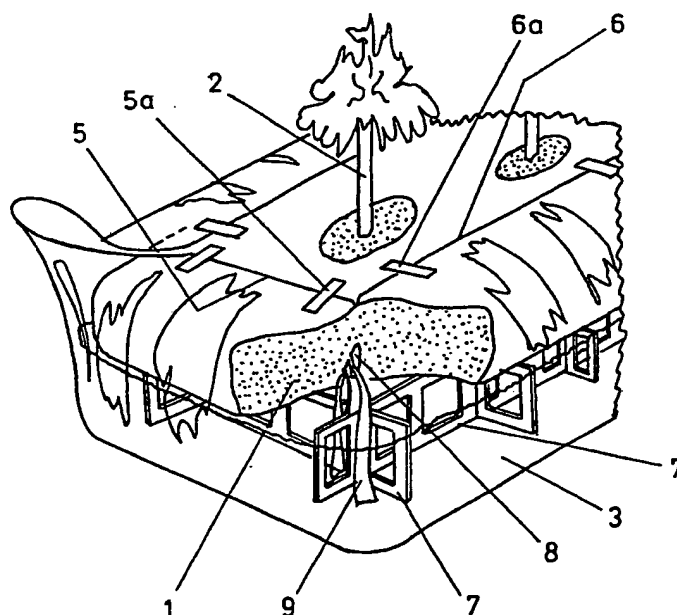


FIG. 1

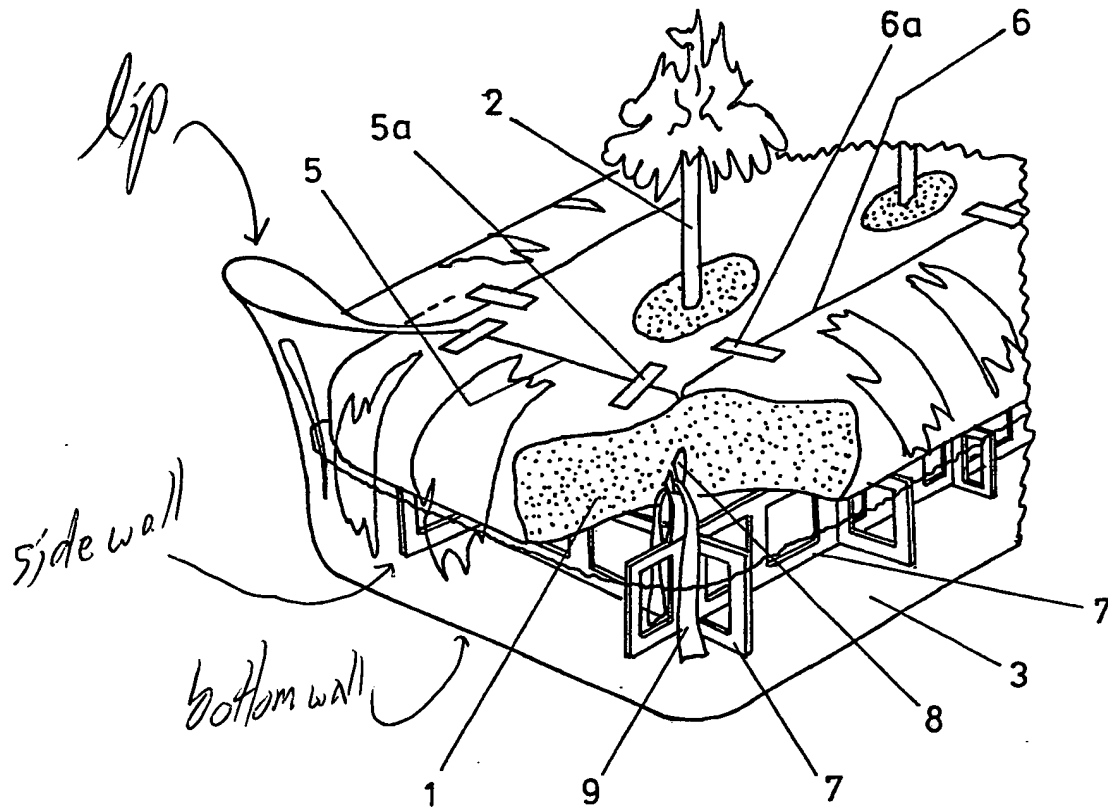


FIG. 1

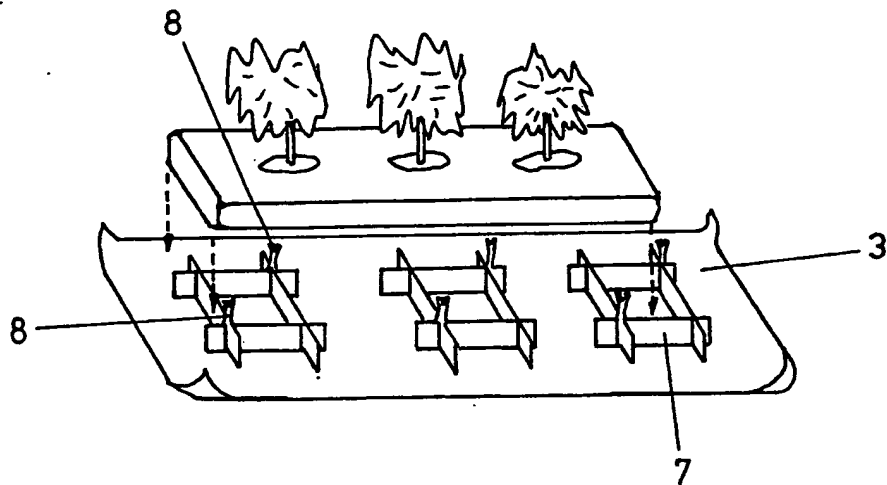


FIG. 2

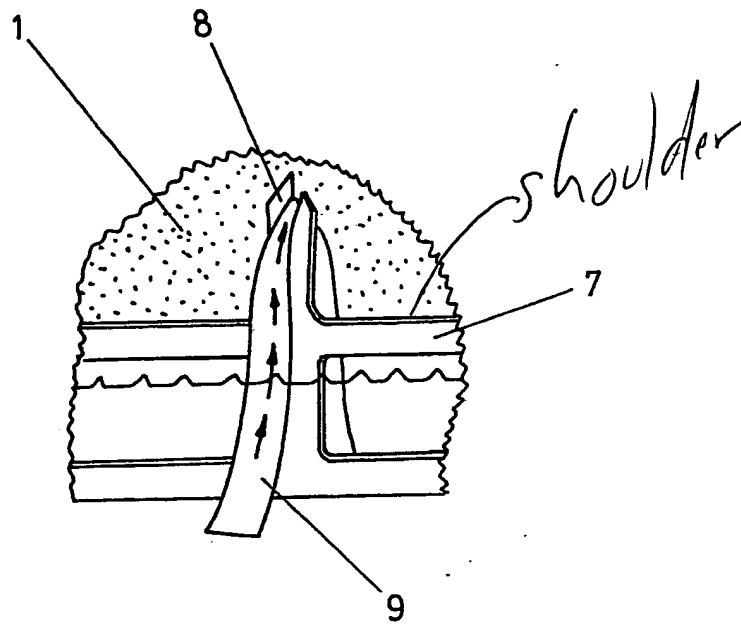


FIG. 3

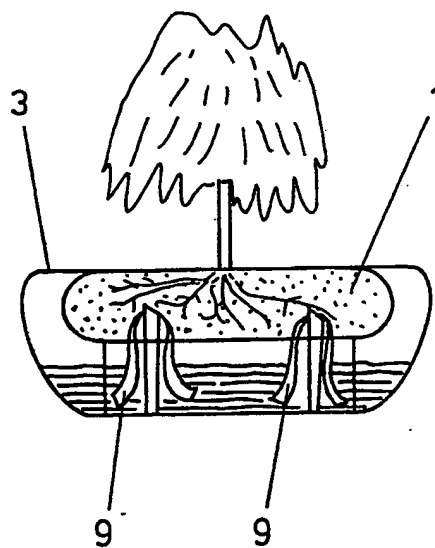


FIG. 4

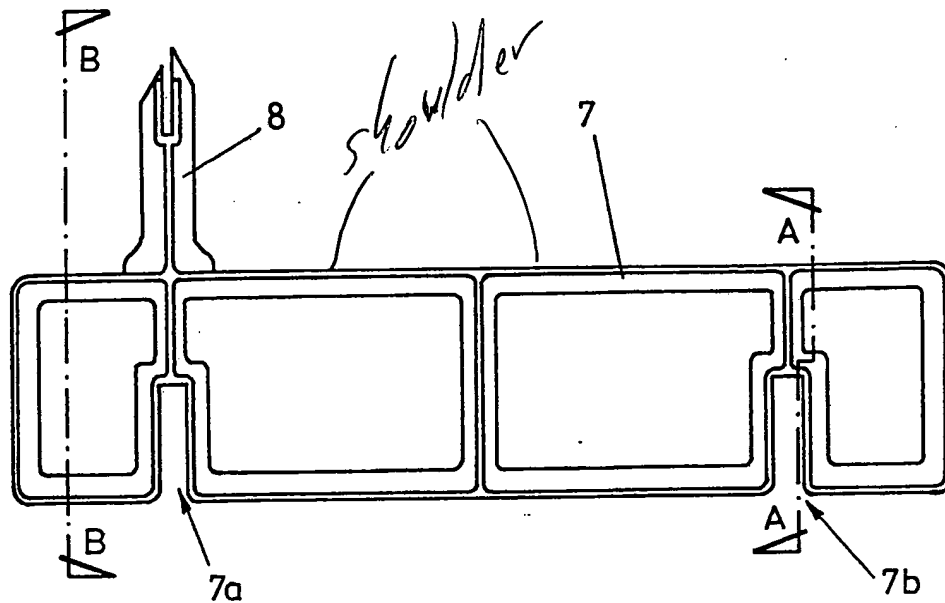


FIG. 5

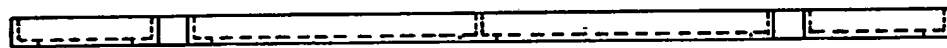


FIG. 6

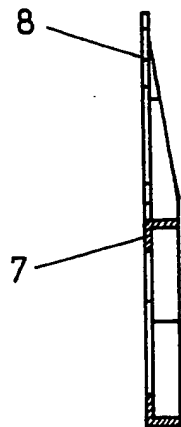


FIG. 7

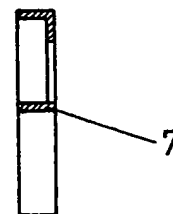


FIG. 8

AUTOMATIC WATERING APPARATUS

The present invention relates to apparatus for automatically watering a plant or plants within a container, and particularly to apparatus of this type incorporating a moisture-absorbing wick.

According to the present invention there is provided apparatus for automatically watering one or more plants growing in a container, the apparatus comprising a reservoir for holding water, means located within said reservoir for supporting the container from beneath, and at least one spike adapted for insertion into the soil surrounding the plant or plants, the or each spike also being adapted to hold a moisture-absorbing wick in contact with the soil whereby water contained in the reservoir is, in use, gradually transferred from the reservoir, along the wick, into the soil.

The type of container to which the present invention is particularly suited is a container of flexible, plastics material, commonly referred to as a growbag.

When used with a container of this type, the spike pierces the growbag from underneath, thus introducing the wick into the soil.

Any number of spikes and/or wicks may be provided, depending on the type and number of plants in the container.

The spike or spikes are preferably formed integrally with the means for supporting the container.

The reservoir may be formed from heavy duty flexible plastics film which is folded or welded at the corners to form a tray. The edges of the film which is preferably of rectangular shape or folded over onto the top of the container and may conveniently be secured there by adhesive tape or the like.

The means for supporting the container in this case

preferably comprises a lattice framework of plastic injection moulded strips, slotted together and located in the bottom of the tray. There may be several of these frameworks, typically three, to support the container along
5 its length.

The reservoir preferably includes means to allow water to be introduced into the reservoir even when the growbag is in position. This may be achieved by forming one or more of the upper corners of the tray into a funnel shape.

10 Alternatively, the reservoir may be constructed from rigid, vacuum formed plastic sheets, and in this case the means for supporting the container preferably comprises ribbing formed integrally with the tray, and extending upwardly from the bottom of the tray.

15 The wick is preferably able to absorb moisture readily, and is also preferably resistant to rotting.

The spike is preferably slotted at its upper most end, the centre of the wick being inserted in this slot, so that each end of the wick is immersed in the water.

20 An embodiment of the present invention will now be described by way of example only with reference to the accompanying drawings in which:-

Figure 1 is a perspective view of plant watering apparatus of the present invention being used with a
25 growbag;

Figure 2 is a perspective view showing the growbag being lowered onto the support means;

Figure 3 is a close up view of a spike and wick forming part of the apparatus of the present invention;

30 Figure 4 is a sectional view through the growbag and the apparatus showing its mode of operation;

Figure 5 is a plan view of one of the strips forming the lattice framework; -

Figure 6 is a side elevation of the strip shown in
35 Figure 5;

Figure 7 is a section on line A-A of Figure 5;

Figure 8 is a section on line B-B of Figure 5.

Referring to the drawings, apparatus for automatically watering a container 1, such as a growbag, containing one or more plants 2, comprises a reservoir 3 for holding water 4. The reservoir 3 may be constructed from heavy duty flexible plastics film, folded or welded at the corners to form the shape of a tray. The edges 5,6 of the film are folded over the top of the growbag 1 and secured to the growbag by strips of adhesive tape 5a,6a. One or more of the upper corners of the tray may be formed into a funnel shape so that water may be poured through the funnel to top up the reservoir level, even when the growbag is in place on top of the reservoir.

15 A lattice framework of four plastic injection moulded strips 7 slotted together and located in the bottom of the tray acts as a support for the growbag 1, raising the growbag above the level of the water.

A spike 8 is integrally formed with two of the strips 20 and is slotted at its upper end to receive the centre portion of a wick 9, the ends of which are immersed in the water.

In use, when the growbag 1 is placed on top of the lattice framework, the spike 8 pierces the plastics film of the growbag, thus introducing the wick 9 into the soil.

In use, the arrangement is such that water is transferred along the wick from the reservoir into the soil, thus enabling the container 1 and the growing plants contained therein to be left for long periods of time 30 without attention.

Figures 6, 7 and 8 show the lattice framework in more detail. Each lattice framework, of which three are shown in Figure 2, comprises four strips 7. Two of the four strips include an integrally formed spike 8 and two are as 35 shown in Figure 5 but with the spike omitted. Each strip 7

includes two slots 7a, 7b which slots serve to receive an adjacent strip and secure the strips at 90° to each other, as shown in Figure 2. Thus, each framework bears two spikes 8 and two associated wicks 9.

- 5 The reservoir 3 may alternatively be constructed from ridged, vacuum formed plastic sheet, with integral ribbing extending upwardly from the bottom of the tray to form the support for the growbag 1.

CLAIMS

1. Apparatus for automatically watering one or more
5 plants growing in a container, the apparatus comprising a
reservoir for holding water, means located within said
reservoir for supporting the container from beneath, and at
least one spike adapted for insertion into the soil
surrounding the plant or plants, the or each spike also
10 being adapted to hold a moisture-absorbing wick in contact
with the soil whereby water contained in the reservoir is,
in use, gradually transferred from the reservoir, along the
wick, into the soil.
2. Apparatus according to Claim 1 in which the or
15 each spike is adapted to pierce the container.
3. Apparatus according to Claim 1 or Claim 2 in
which the or each spike is formed integrally with the means
for supporting the container.
4. Apparatus according to any of the preceding
20 Claims in which the reservoir is formed from flexible
plastics film folded or welded at the corners to form a
tray.
5. Apparatus according to any of the preceding
Claims in which the means for supporting the container
25 comprises at least one lattice framework formed from a
number of strips slotted together.
6. Apparatus according to any of the preceding
Claims in which the reservoir includes means to introduce
water into the reservoir when the container is in position.
- 30 7. Apparatus according to any of the preceding
Claims in which the or each spike is slotted at its upper
end to receive a central portion of the wick.
8. Apparatus according to Claim 1 and substantially
as herein described.
- 35 9. Apparatus for automatically watering one or more

plants growing in a container, the apparatus being substantially as herein described with reference to the accompanying drawings.